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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 14

Application Number: 08/811, 361
Filing Date: March 4, 1997
Appellant(s): Kulesz-Martin

Michael L. Dunn
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed September 25, 1998.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows: Whether claim 11 metes the criteria of 35 USC 112, 1st paragraph scope of the claim, and of 35 USC 112, 2nd paragraph for indefiniteness. The rejections were clearly set forth in Paper No: 4 and reiterated in papers no 8 and 11 in response to Applicant's arguments.

(7) Grouping of Claims

The rejection of claims stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

Arai et al. "Immunologically Distinct p53 Molecules Generated by Alternative splicing". Molecular and Cellular Biology, vol. 6 (September 1986), pp 3232-3239.

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim 11 is rejected under 35 U.S.C. 112, 1st and 2nd paragraphs and 102(b). This rejection is set forth in prior Office action, Paper No. 6. The rejection is also briefly reiterated below.

Claim Rejections - 35 USC § 112

A. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 11 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for p53as protein identified by the extra unique peptide of 17 aminoacids as defined in the specification, does not reasonably provide enablement for variations of p53 where any one or more of the carboxy terminal 50 aminoacids (which makes up the unique carboxy terminus of the p53as that differentiates it from p53) can be different and be encompassed by the claim. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The specification teaches a variant form of p53 generated by an alternate splicing of p53 that results in the insertion of 96 nucleotides from intron 10 of p53 resulting in a protein that is 9 aminoacids shorter than p53, and being different from p53 in the C terminal end. The p53as protein is taught to have a unique C terminal end in that there are 17 aminoacids spaced in the C terminal 50 aminoacids that are different. The specification identifies two unique peptide sequences as part of p53as- SEQ Ids No 1 and 2. There is no teaching as to other species of p53 other than those represented by SEQ ID Nos 1 and 2. It is unpredictable whether other forms of p53 (beyond the two identified in the specification) can be identified by the methods set forth in the specification as it is not known whether other forms of p53 can be identified and cloned using the same primers and strategies. The specification does not provide any guidance as to how to produce peptides specific to p53as which could encompass deletions, mutations, substitutions in the sequence. All that is taught is that the C terminal 50 aminoacids of p53 is different from the C

terminal 50 aminoacids of p53as in 17 aminoacids. It is well known in the art that minor modifications in protein/peptide sequence can have major differences in protein/peptide activity, conformation, antigenicity, function and as such it is highly unpredictable as to which describes p53as of the instant claims. In view of the unpredictability of the art, lack of guidance and limited working examples and the amount of experimentation required to produce the claimed peptide commensurate in scope with the claims, it would be undue burden to practice the claimed invention.

B. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is indefinite in the recitation of "p53as" protein which is a laboratory designated term and can be used to define an unrelated matter. The art does not recognize this to be unique, with no ambiguity. Defining the protein by a SEQ ID No will obviate this rejection. Further, the claim is indefinite in its recitation of "identical to the unique carboxyl terminal region which distinguishes p53as from p53 protein". The metes and bound of the claim are not known, since a peptide can have any number of aminoacids and be composed of any one of the twenty aminoacids available. Inclusion of a Seq ID No will render the claims more definite.

Claim Rejections - 35 USC § 102

C The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 11 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Arai et al (1986).

The claim is drawn to a purified peptide designated p53as peptide which is present in p53as protein and which is identical to the unique carboxy terminal region and possesses a unique epitope that distinguishes p53as from p53. The claim is interpreted to read on the unique p53as peptide which is contained within the p53as protein and therefore, the claim reads on the p53as protein per se as taught by Arai et al. Arai teaches a purified p53as protein which contains the p53as peptide sequence at the C terminal end, in Figure 2.

Arai et al teach that there exist alternately spliced forms of p53 message giving rise to different species of p53 protein, and teach an alternately spliced message that contains a 96 base pair insert which results in a protein that is 9 aminoacids shorter than the unspliced message. A search of the sequence database suggests that the protein/peptide of Arai et al is the same as the claimed peptide. The 17 aminoacid peptide of the alternatively spliced p53 as disclosed by Arai et al is also indicated to be identical to the claimed peptide sequence. Arai et al teach in vitro translation of the messages encoding for p53 and p53as and purifying them by immunoprecipitation and running on an SDS gel.

(11) Response to Argument

Rejection of claim 11 under 35 U.S.C.112, 1st and 2nd paragraph is maintained for the reasons set forth in the previous office action with respect to the metes and bounds of the amount of identity of the p53 and p53as proteins. Appellant's arguments and amendments have been fully considered but they are not persuasive. Appellant argues that the "objection to claim 11 under 35 USC 112 is not well founded" and that teaching is present as to how to raise antibodies to the p53as. Appellant is alerted to the fact that the claim in question and the rejection being argued are not directed to antibodies. It appears that Appellant is presenting irrelevant arguments to the

particular application. With respect to the argument that a SEQ ID is not required and that the metes and bounds will be understood by one of skill in the art, it is stated again that any peptide can be made from the choice of 20 aminoacids and strung together in a huge number of sequences from two aminoacids long to twenty aminoacids long. A more definite identity is required in the claims for one of skill to practice the claimed invention without undue burden. An inclusion of a series of amino acids at the C terminal end of a protein or peptide may give rise to unique epitopes, while at the same time and even if unique epitopes are identified as part of a protein, there is no predictability that the same unique epitope will be retained in the isolated peptide. Finally, while an applicant can be his or her own lexicographer, the term used should be such as to not be interpreted into the prior art. Appellant argues that the claimed peptide is limited to being at the C terminal and can only be of 19 amino acids in length which should overcome the 35 U.S. C. 112 rejections. It is reiterated that the aminoacid making up this claimed unique C terminal peptide can be any combination of aminoacids from the customary 20 aminoacid repertoire. Secondly, Appellant asserts that the C terminal should have a unique epitope. Without knowing what constitutes the sequence making up the epitope, it is not possible to determine if a series of aminoacids making up the epitope in the C terminal peptide is not also present in the body of the p53 or p53as molecule. As Appellant discloses in the specification at page 1, "replacement of even a single aminoacid can be sufficient to change the normal folding of the p53 protein". This statement can apply to the to any protein or peptide molecule and thus with respect to Appellant's arguments on page 2, line 3-5, it is not certain that the unique nature of the epitope in the peptide versus that in the protein will be the same, due to the influence of the remaining amino acid sequence that makes up the whole protein in the latter.

Rejection of claim 11 under 35 U.S.C.102(b) is maintained for the reasons set forth in the previous office action. Appellant's arguments and amendments have been fully considered but they are not persuasive. In response to appellant's argument that the Arai et al reference does not teach a purified peptide it is submitted that Arai et al teaches the same alternatively spliced p53

whose sequence is the same as the instant protein, which is purified by immunoprecipitation and SDS gel electrophoresis. The unique aminoacid sequence and the unique C terminal peptide is clearly anticipated by the Arai et al reference. Arai et al also teach that the unique C terminal peptide region possess a unique epitope that distinguishes it from the p53. Appellant argues that the peptide disclosed in the specification possesses a different aminoacid sequence from that disclosed by Arai et al. However, the claims are not drawn to a specific sequence. It is maintained that the Arai et al reference anticipates the present claim. It is held that Arai et al discloses the sequence of the alternatively spliced p53, as determined by a sequence search conducted by the Office. Appellant argues that even if the non-functional protein sequence of Arai et al anticipates the p53as, there is no suggestion of why the presently claimed peptide should be selected from the 7670 possible 19 amino acid combinations that can be made. It is reiterated that the claim again is broadly drawn to any C terminal peptide and not any specific peptide. A unique C terminal peptide is disclosed in Arai et al and thus the limitations of the claims are met by the reference.

Finally, it appears that the Appellant is arguing limitations that are not present in the claims - specifically with respect to the uniqueness of the instant sequence, lacking of the negative regulatory element, and that p53as is a perpetually active form (it is not clear what the Applicant means by active form).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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December 29, 1998

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